A Bibliography of the Arctic Species of the Gadidae, to 1982

D. Dewar, L. Johnson, M. Layton and K.E. Marshall

Western Region
Department of Fisheries and Oceans
Winnipeg, Manitoba R3T 2N6

February 1983

Canadian Technical Report of Fisheries & Aquatic Sciences No.1141

Canada

Canadian Technical Report of Fisheries and Aquatic Sciences

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Canadian Technical Report of
Fisheries and Aquatic Sciences 1141

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This is the 152nd Technical Report
from the Western Region, Winnipeg

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Cat. no. Fs 97-6/1141 ISSN 0706-6457

Correct citation for this publication is:

Dewar, D., L. Johnson, M. Layton, and K.E. Marshall 1983 A bibliography of the Arctic species of the Gadidae, to 1982. Can. Tech. Rep. Fish. Aquat. Sci. 1141: iv + 29 p.

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ABSTRACT

Dewar, D., L. Johnson, M. Layton, and K.E. Marshall 1983 A bibliography of the Arctic species of the Gadidae, to 1982. Can. Tech. Rep. Fish. Aquat. Sci. 1141: iv + 29 p.

The bibliography consists of some 500 references to the following species: Arctogadus borisovi Drjagin, 1932, the toothed cod; Arctogadus glacialis (Peters, 1874), the polar cod, Boreogadus saida (Lepechin, 1774), the Arctic cod; Eleginus gracilis (Tilesius, 1810), the saffron cod; Eleginus navaga (Pallas, 1811), the navaga, and Gadus ogac Richardson, 1836, the ogac. Geographic, taxonomic and broad subject indexes to the citations listed are given. Citations date from 1770 to 1982.

Key words: cod, toothed; cod, polar; cod, Arctic; cod, saffron; navaga; ogac; bibliographies.

RESUME

Dewar, D., L. Johnson, M. Layton, and K.E. Marshall 1983 A bibliography of the Arctic species of the Gadidae, to 1982. Can. Tech. Rep. Fish. Aquat. Sci. 1141: iv + 29 p.

Bibliographie regroupant quelque 500 références sur les espèces suivantes: Arctogadus borisovi Drjagin, 1932, le saïda barbu, Arctogadus glacialis (Peters, 1874), le saïda imberbe; Boreogadus saida (Lepechin, 1774), le saïda franc; Eleginus gracilis (Tilesius, 1810), le navaga jaune; Eleginus navaga (Pallas, 1811), le navaga, et Gadus ogac Richardson, 1836, l'ogac. Des index sur les caractéristiques géographiques, taxonomiques et sur les grands sujets sont joints à ces références. Les citations datent de 1770 à 1982.

Mots-clés: saïda barbu; saïda imberbe; saïda franc; navaga jaune; navaga; ogac; bibliographies.

INTRODUCTION

Although the various species of Gadidae inhabiting Arctic waters are of relatively low importance in commercial fisheries they are important in subsistence fisheries of the native inhabitants of the Arctic. However their main interest lies in their position in the food chain. They appear to be an important part of the diet of the marine and anadromous fishes (e.g. Arctic charr), marine mammals, and birds in the Arctic. Clearly if we are to study any aspect of the ecology of the Arctic these species of cod form a key position.

This bibliography was compiled to provide a ready source of the published information on the six species occurring in the Arctic waters. Five of the species are recorded from Canadian waters: Arctogadus borisovi Drjagin, 1932, the toothed cod; Arctogadus glacialis (Peters, 1874), the polar cod; Boreogadus saida (Lepechin, 1774), the Arctic cod; Eleginus gracilis (Tilesius, 1810), the saffron cod, and Gadus ogac, Richardson, 1874, the ogac. Eleginus navaga (Pallas, 1811), the navaga of northern European waters, is included since it is clearly of comparable importance. The common names given above are those recommended by Legendre et al. (1975). Gadus ogac is often referred to as the Greenland cod. Boreogadus saida is commonly called polar cod in Europe.

FORMAT OF THE BIBLIOGRAPHY

The author index is the bibliography proper. The taxonomic index provides a key to references dealing with each of the six species covered. A geographic index, to sea areas and countries, and a broad subject index round off the report.

COMPILATION OF THE BIBLIOGRAPHY

The bibliography has been compiled from many sources. A small file of papers of the Arctic Gadidae had been collected (by L.J.) and this formed the basis of the present collection which has been built up to include the more significant items found in subsequent searches. The items found in the file of references or in the Freshwater Institute Library are marked ** in the AUTHOR INDEX. ** inside the parentheses indicates that we have on file the translation or other format indicated, while ** following the parentheses means we have the original article.

Online searches were made (by D.D.) of various data bases (BIOSIS Previews, Arctic Science and Technology Information Service, Canada Environment, Aquatic Sciences and Fisheries Abstracts, and others). A manual search of the Zoological Record was made (also by D.D.). Bibliographies on Arctic fishes (McAllister 1966; Robinson et al. 1981) were scanned for pertinent references. Copies of the more significant papers were obtained and the references cited in them searched for further relevant material.

Some members of the staff of the Freshwater Institute have looked through the file of references and drawn our attention to some items which had missed our net. Some of the older European literature to which citations were found were not added to the file due to the problems of obtaining such material. These references have been included in the bibliography although some of them are not complete. Sufficient information is hopefully given to enable these items to be located in a library.

BRIEF SYNONYMY OF THE SPECIES COVERED

Arctogadus Drjagin, 1932
= Phocaegadus Jensen, 1948

Arctogadus borisovi Drjagin, 1932 (s.lat.)
= Boreogadus pearyi Nichols & Maxwell, 1933
(Knipowitsch 1907 described specimens considered to belong to this species as Gadus saida (non Lep.))

Arctogadus glacialis (Peters, 1874)
= Gadus glacilis Peters, 1874
Phocaegadus megalops Jensen, 1948
(specimens now considered to belong to this species have been described in the literature as belonging to these species: Gadus saida (Johansen 1912); Boreogadus saida (Jensen 1948); Arctogadus pearyi (Svetovidov 1948))

Boreogadus Gunther, 1862

Boreogadus saida (Lepechin, 1774)
= Gadus saida Lepechin, 1774
Merlangus polaris Sabine, 1824
Gadus fabricii Richardson, 1836
Gadus agilis Reinhardt, 1838
Pollachius polaris Gill, 1862
Boreogadus polaris (Gill, 1863)

Eleginus Fischer 1813
= Tilesia Swainson, 1839
Pleurogadus Bean in Jordan, 1885

Eleginus gracilis (Tilesius, 1810)
= Gadus gracilis Tilesius, 1810
Gadus wachna Pallas, 1811 (1813)
Tilesia gracilis (Bean, 1882 (1881))
Pleurogadus gracilis (Bean in Jordan, 1885)
Eleginus navaga (Gill, 1891)
Eleginus navaga gracilis (Shmidt, 1904)
Gadus navaga f. regae (Rendahl, 1931)
Gadus navaga f. typ. (Rendahl, 1931)

Eleginus navaga (Pallas, 1811)
= Gadus navaga Pallas, 1811
Eleginus navaga (Fischer, 1813)
Eleginus navaga navaga Esipov, 1941
Eleginus navaga karaensis Esipov, 1941

Gadus Artedi, 1738

Gadus ogac Richardson, 1836
= Gadus barbatus (non L.) Fabricius, 1780
Gadus ovak Reinhardt, 1838
Gadus ogat Kroyer, 1847
Gadus morhua ogac Svetovidov, 1944

NOTES ON THE INDEXES

AUTHOR INDEX

The ** following a reference indicates that this paper is on file at the Freshwater Institute Library. Transliteration of the names of Russian authors follows that used by Chemical Abstracts. As far as possible the German spelling of Russian authors' names has been changed to the American system. Cross references are given from variant spellings to that used. In the absence of any notation at the end of the citation it may be assumed that the article cited is written in the language in which the title is given. Titles enclosed in brackets, [ ], are translations of the original title given to aid the user. In some cases these may not be a full translation but only indication of the subject matter covered by the paper. Titles given in parentheses, ( ), are translations of the title taken from the original article or, in the case of cover-to-cover translations of Russian journals, from the translated version.

Where a page number appears in parentheses at the end of an entry, this means that a species is mentioned on that particular page; it is not the complete pagination of the article.

TAXONOMIC INDEX

This lists the references under the names currently used for the species covered. Reference should be made to the Synonymy on p.1 for names no longer in current use for the species covered.

GEOGRAPHIC INDEX

Sea areas are covered first. These are listed in a sequence starting with the Beaufort Sea and then proceeding in an Easterly direction around the north pole. Under the heading of CANADA (Arctic) will be found references to the many small channels in the Arctic Islands. Notes in parentheses indicate the location covered by these references. The other land areas listed have been necessary when it has not been possible to find out which sea area is covered, or, in the case of Russia, more than one Russian sea area would appear to be covered.

SUBJECT INDEX

Broad subject areas are covered. Under the heading of PHYSIOLOGY AND BIOCHEMISTRY notes in parentheses have been added in view of the wide range of topics covered to aid users in locating specific material.

ACKNOWLEDGMENTS

We thank Dr. D.E. McAllister and D.B. Stewart for perusing the manuscript and giving us details of some further additions.

Thanks also to Lesley Fletcher for her endless patience at correcting and formatting on the word processor.

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TAXONOMIC INDEX

Arctogadus borisovi
Andriyashev 1948; Borisov, 1928; Boulva 1970, 1972, 1979; Drjagin 1932; Halama 1977; Knipovich 1907; Legendre et al. 1975; McAllister 1975; Mikhin 1941; Moskalenko 1960; Nikol'skii 1954; Pirozhnikov 1955; Popov 1933; Ross 1835; Svetovidov 1948; Zvyagina 1961.

Arctogadus glacialis
Andriyashev 1957, 1973; Andriyashev et al. 1980; Boulva 1970, 1972; Buchanan et al. 1977; Drjagin 1932; Frost 1981; Halama 1977; Hansen et al. 1971; Hildebrand 1948; Hylen et al. 1972a; Jensen 1948; Johansen 1912; Legendre et al. 1975; Lyons & Mielke 1973; Mansfield 1975; Nichols & Maxwell 1933; Nielsen & Jensen 1967; Nikol'skii 1954; Peters 1874; Robinson et al. 1981; Schultz & Welander 1935; Smith 1977; Svetovidov 1948; Tsinovsky & Mel'nikov 1980; Vladykov 1972; Walters 1961.

Boreogadus saida
Aftenposten 1974; Ahmed et al. 1981; Altukov 1979; Alverson & Wilimovsky 1966; Andriyashev 1954, 1973; Andriyashev et al. 1980; Aronovich et al. 1975; Backus 1951, 1957; Bain & Sekerak 1978; Bain et al. 1977; Bajkov 1975; Baranenkova et al. 1966; Beak 1975; Bean 1879, 1881; Belova & Tarverdieva 1964; Bendock 1979; Benko et al. 1970; Berg 1933, 1949; Birkhead & Nettleship 1981; Blacker 1968; Blindheim et al. 1971; Bohn & McElroy 1976; Borisov & Ovsyannikov 1951, 1954; Bradstreet 1977, 1978, 1980, 1982; Bradstreet & Cross 1982; Buchanan et al. 1977; Burdak 1968; Butorin 1965; Camerano 1903; Cobb 1926; Collett 1880; Craig et al. 1982; Craig & Haldorson 1981; Craig & McCart 1976; Dambeck 1877; Den Beste & McCart 1978; Divoky 1978a, 1978b; Doroshev & Aronovich 1974; Dragesund & Nakken 1972; Dresel 1884; Dunbar 1947; Dunbar & Hildebrand 1952; Dunbar & Moore 1980; Edwards 1961; Ehrenbaum 1901, 1905; Ellis 1962; Esipov 1931, 1937; Fabricius 1780; Feeney 1982; Feeney et al. 1979; Feeney & Yeh 1978; Filippov 1974; Finley & Gibb 1982; Finley & Johnston 1977; Froiland 1974; Frost 1981; Frost & Lowry 1981; Frost et al. 1978; Galbraith & Fraser 1974; Galbraith & Hunter 1975?; Gaston & Nettleship 1981; Geoghegan et al. 1980; Gill 1862, 1863; Gjosaeter 1973; Gjosaeter & Bjerke 1973; Gjosaeter et al. 1972; Gordon & Backus 1957; Gosheva 1970; Green & Steele 1975; Grieg 1926; Griffiths et al. 1977; Grinkevich 1957; Gunther 1861, 1877; Halama 1977; Halkett 1913, 1928; Hew et al. 1981; Hildebrand, H. 1948; Hildebrand, S.F. 1939; Hognestad 1961, 1968a, 1968b, 1969, 1970; Holeton 1974; Hunter 1968, 1979; Hunter et al. 1980; Hylen et al. 1972a, 1972b; International Council for the Exploration of the Sea 1974; Isachenko 1912; Jakobsen 1974, 1975, 1978a, 1978b; Jensen, A.D. 1910; Jensen, A.S. 1926; Johansen 1912; Jordan & Evermann 1898; Jordan & Gilbert 1899; Kashkina 1962; Kazanova 1949; Kazanova & Pertseva-Ostroumova 1960; Kendall 1909, 1910; Kendel et al. 1975; Khristoforov 1975, 1977, 1978a, 1978b, 1978c; Kiseleva 1940; Kizevetter 1942; Kleinenberg et al. 1969; Klumov 1935a, 1935b, 1936, 1937, 1949; Knipovich 1907, 1926; Koefoed 1907; Konstantinov & Minder 1975; Kravchuk 1958; Lalli et al. 1973; Lear 1979, 1980; Legendre et al. 1975; Lepekhin 1774; Lilly

1980a, 1980b; Loennberg 1899; Lowry & Frost 1981; Lowry et al. 1977, 1978, 1980; Lutken 1881, 1886; MacDonald 1954; MacGintie 1955; Makhotin & Soin 1974; Malmgren 1863, 1865; Mansfield 1975; Mansfield et al. 1975; Mantiefel 1943; Maslov 1960; McAllister 1962, 1966, 1975; McKenzie 1953, 1959; McPhail & Lindsey 1970; Mesyatsev 1929; Miller 1979; Milne & Smiley 1978; Moles 1982; Moore & Moore 1974; Moskalenko 1964; Murdoch 1885; Nadezhdin 1970; Naumenko 1978; Nettleship & Gaston 1978; Nikol'skii 1950, 1954; Nikol'skii & Radakov 1968; Odense & Leung 1975; Olsen 1962; Osuga & Feeney 1978; Osuga et al. 1978, 1980; Palenichko 1957, 1958, 1968; Pechenik & Shebel 1970; Pechenik et al. 1973; Pertseva 1936, 1939; Pfaff 1937; Pirozhnikov 1955; Pochekaev 1949; Ponomarenko 1961, 1963, 1964, 1965a, 1965b, 1965c, 1967a, 1967b, 1967c, 1968a, 1968b, 1969; Ponomarenko et al. 1962; Ponomareva 1949; Quast 1974; Rass 1934, 1936, 1941, 1945, 1948, 1968; Razumovskaya & Chernogortsev 1976a, 1976b; Reinhardt 1838; Richardson 1855; Robinson et al. 1981; Rollefsen 1955; Ross 1826; Russell 1976, Sabine 1821; Saetersdal 1959, 1969; Sangolt 1979, Schmidt 1905, 1909; Schram 1980; Shultz & Welander 1935; Scofield 1899; Sekerak 1982; Sekerak et al. 1979; Serebrov 1973, 1974, 1976, Shepel 1971; Shleinik 1970, 1972, 1973a, 1973b, 1978; Shokhnov 1973; Shulman 1954; Smedstad 1974; Smith 1977; Smitt 1893; Soldatov 1923; Soldatov & Lindberg 1930; Springer & Roseneau 1978; Suvorov 1927, 1948; Svetovidov 1935, 1948, 1953; Tambovtsev 1952; Taranets 1933, 1937a 1938b; Tarbox & Thorne 1979; Thielemann 1922; Tsinovsky & Mel'nikov 1980; Turner 1885; Vesin et al. 1981; Vladykov 1933a, 1933b, 1945, 1972; Vladykov & MacKenzie 1955; Walters 1951, 1953, 1955; Watson 1982; Wilimovsky 1954; Wolotira et al. 1979; Yamasaki et al. 1980; Yudanov 1964; Zaferman & Serebrov 1972.

Eleginus
Andriyashev 1957b; Bean 1881; Fischer 1812; Gill 1891; Svetovidov 1953.

Eleginus gracilis
Andriyashev 1935, 1937, 1939, 1954; Barton 1979; Bean & Bean 1896; Berg 1923, 1933, 1949; Berman 1981; Berman et al. 1977, 1981; Bogaevskii 1951; Bond 1982; Borisov & Bogdanov 1955; Borisov & Ovsyannikov 1951, 1954; Bray 1975; Chranilov 1930; Dogel 1948; Doroshenko 1981; Dubrovskaya 1953, 1954; Dul'keit 1925; Dzhumaliev 1976, 1980; Ellis 1962; Evermann & Goldsborough 1907; Frost 1981; Frost & Lowry 1981; Galbraith & Hunter 1975?; Gordeev 1949; Gracheva 1965; Grebnitskii 1897; Gribanov et al. 1945; Gusev 1951; Halama 1977; Hargens 1972; Hew et al. 1981; Hildebrand 1948; Honma 1957, 1968; Jordan 1885; Jordan & Evermann 1898; Jordan & Metz 1913; Kaganovskaya 1949; Kaganovskii 1933, 1949; Kendel et al. 1975; Khudya & Shuntov 1980; Kihara 1976; Kizevetter 1942; Kolesova 1977; Kostareva et al. 1970; Kozlov 1951, 1952, 1959; Legendre et al. 1975; Letsev & Madgeburov 1956; Lindberg 1927, 1947; Lindberg & Dul'keit 1929; Lowry et al. 1980; Lyaiman 1930; Mansfield 1975; Markovtsev 1978; McAllister 1962, 1966; Milovidova-Dubrovskaya 1933, 1938; Moiseev 1953; Moles 1982; Mori & Uchida 1934; Mukhacheva 1957; Nikol'skii 1948, 1950a, 1950b, 1953, 1954, 1956; Nikolotova 1954; Okhryamkin 1931; Omel'chenko 1974; Pallas 1811; Panin 1943; Parchevskii & Sokolova 1978; Petrova 1973; Petrova-Tychkova 1951; Pochekaev 1949; Pokrovskaya 1958, 1960; Popov 1931a, 1931b; Pravdin 1928; Rass & Zheltenkova 1948; Raymond 1976; Raymond & DeVries 1977; Raymond et al. 1975, 1977; Rendahl 1931; Robinson et al. 1981; Rozanova 1941; Safronov 1981; Sato 1937; Scholander & Maggert 1971; Schultz & Welander 1935; Semenenko 1965a, 1965b, 1970a, 1970b, 1971, 1973; Shmidt, P. 1904, 1948, 1950; Shmidt, V. 1936; Shukolyukov et al. 1976; Skalkin 1961; Slaney 1973; Smith 1977; Sokolova & Parchevskii 1969, 1972; Soldatov 1928, 1938; Soldatov & Lindberg 1930; Suvorov 1948; Svetovidov 1948, 1965; Swainson 1839; Takeuchi & Imai 1959; Taranets 1937a, 1937b, 1938a, 1938b; Tilesius 1810; Tsimbaljuk & Semeshko 1971; Ueno 1970; Vasil'kov et al. 1980; Vedenskii 1949; Vernidub 1936; Walters 1951, 1955; Wilimovsky 1954, 1958, 1964.

Eleginus navaga
Agapov 1941; Agapov & Toporkov 1937; Aleyev 1914; Altukhov 1957, 1963; Altukhov & Erastova 1971; Anukhina 1962a, 1962b, 1963a, 1963b, 1964, 1966, 1968a, 1968b; Aronovich 1974; Aronovich et al. 1975; Azarov 1963; Belova 1962; Blacker 1968; Bogaevskii 1960; Borisov 1928; Borisova et al. 1974; Borkin 1978; Burmakin 1940; Cobb 1926; Dambeck 1877; Deryugin 1916; Devitsyna 1972, 1977; Dmitriev 1957; Doroshev & Aronovich 1974; Ehrenbaum 1901; Esipov 1941; Gosheva 1973; Gunther 1861; Halama 1977; Isaev et al. 1969; Jordon 1885; Khaldinova 1936; Kizevetter 1942; Kner & Steindachner 1870; Knipovich 1897; Koelreuter 1770; Kornilova 1971; Kuderskii 1966; Kuderskii & Anukhina 1963; Kukushkina & Shcherbina 1977; Kuzmin-Karavaev 1929, 1940a, 1930b; Lanshin 1928, 1929; Lapin & Matsuk 1979; Malmgren 1863; Manteifel 1945; Markevich & Shatunovskii 1969; McAllister 1962, 1975; Mikhailovskii 1903; Mikodina 1980; Mikulin et al. 1978; Mina 1968; Nikol'skii & Radakov 1968; Nikolyaev 1957; Palenichko 1949, 1957; Palenichko & Timakova 1957; Pallas 1811; Petrova 1973; Pietschmann 1909; Pokrovskaya 1957, 1958, 1960; Polyakov 1968; Probatov 1933, 1936; Rass 1936, 1968; Riske 1960; Sakhno 1936; Shatunovskii 1969; Shatunovskii & Denisova 1968; Shatunovskii et al. 1967; Shulman 1954; Slaney 1973; Smirnov 1910; Smitt 1893; Soldatov 1923; Sonina 1957; Stein 1976; Svetovidov 1948, 1965, 1968; Swainson 1839; Timakova 1957; Tsvetkov 1979; Valovaya 1977, 1979; Val'ter 1979; Varpakhovskii 1902; Verein 1961; Vladykov 1972; Walters 1951, 1955; Yastrebkov 1964; Zalesskikh 1978.

Gadus ogac
Ali 1968; Backus 1957; Bajkov 1975; Boulva 1972, 1979, Bulatova 1968; Dresel 1884; Dunbar & Hildebrand 1952; Dunbar & Moore 1980; Edwards 1961; Ehrenbaum 1901; Ellis 1962; Fabricius 1780; Gunther 1861; Hansen 1943; Hew et al. 1981; Hildebrand, H. 1948; Hildebrand, S.F. 1939; Hunter 1968; Hunter et al. 1980; Kendall 1909, 1910; Kroyer 1874; Legendre 1961; Legendre et al. 1975; Leim & Scott 1966; McAllister 1964, 1966, 1975; McKenzie 1952, 1959; Melvill 1915; Nikol'skii 1954; Reinhardt 1838; Richardson 1863; Robinson et al. 1981; Saetersdal 1969; Schultz & Welander 1935; Scott 1952; Smitt 1893; Stearns 1884; Svetovidov 1944, 1948, 1953; Templeman et al. 1976; Turner 1885; Van Voorhies et al. 1978; Vladykov 1933a, 1945; Walters 1951, 1955; Williamson 1909.

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BEAUFORT SEA

Bendock 1979; Bond 1982; Bray 1975; Craig et al. 1982; Craig & Haldorson 1981; Craig & McCart 1976; Divoky 1978a, 1978b; Frost 1981; Frost et al. 1978; Galbraith & Fraser 1974; Galbraith & Hunter 1975?; Griffiths et al. 1977; Hansen et al. 1971; Hunter 1975, 1979; Jones & Den Beste 1977; Kendel et al. 1975; Lowry & Frost 1981; Lowry et al. 1980; MacGintie 1955; McAllister 1962; Murdoch 1889; Percy 1975; Riske 1960; Slaney 1973; Smith 1977; Springer & Roseneau 1978; Wilimovsky 1954, 1958.

HUDSON BAY

Bajkov 1975; Hunter 1968; McAllister 1964; Melvill 1915; Vladykov 1933a, 1933b.

DAVIS STRAIT

Bean 1879; Dresel 1884; Hansen 1943.

LABRADOR SEA

Backus 1951, 1957; Bulatova 1968; Gordon & Backus 1957; Hildebrand 1939; Kendall 1909, 1910; Lear 1980; Leim & Scott 1966; Lilly 1980a, 1980b; Miller 1979; Stearns 1884; Templeman et al. 1976; Wells 1980.

ATLANTIC OCEAN (Northwestern)

Lear 1979; Leim & Scott 1966; McKenzie 1952, 1953, 1959; Scott 1952; Vesin et al. 1981; Vladykov & Mackenzie 1955.

GREENLAND SEA (incl. Spitzbergen)

Ehrenbaum 1905; Hognestad 1961; Johansen 1912; Koefoed 1907; Loennberg 1899; Malmgren 1864, 1865; Schram 1980.

NORWEGIAN SEA

Jakobsen 1974, 1975, 1978a, 1978b; Schmidt 1909; Smedstad 1974; Watson 1982.

BARENTS SEA

Agapov & Toporkov 1937; Baranenkova 1966; Belova 1962; Benko et al 1970; Blacker 1968; Blindheim et al. 1971; Camerano 1903; Deryugin 1916; Dragesund & Nakken 1972; Ehrenbaum 1905; Esipov 1931, 1937; Filipov 1974; Gjosaeter 1973; Gjosaeter & Bjerke 1973; Gjosaeter et al. 1972. Grieg 1926; Grinkevich 1957; Hognestad 1968, 1968a, 1969, 1970; Hylen et al. 1972a, 1972b; International Council for the Exploration of the Sea 1974; Kashkina 1962; Kazanova 1949; Khristoforov 1978a, 1978b; Klumov 1935a, 1935b, 1936; Knipovich 1926; Kornilova 1971; Kukushkina & Shcherbina 1977; Kuzmin-Karavaev 1929, 1930b; Maslov 1960; Mikailovskii 1903; Olsen 1962; Palenichko 1949; Pertseva 1936; Pechenik & Shebel 1970; Pechenik et al. 1973; Pertseva 1939; Petrova 1973; Pietschmann 1909, Ponomarenko 1961, 1963, 1964, 1965a, 1965b, 1967b, 1967c; Rass 1934, 1936, 1941, 1948, 1949; Sangolt 1979; Shleinik 1970, 1972, 1973a, 1973b, 1978; Shokhnov 1910; Soldatov 1923; Tambovtsev 1952; Thielemann 1922; Watson 1982; Yastrebkov 1964; Zalesskikh 1978.

WHITE SEA

Aleev 1914; Altukhov 1957, 1963, 1979; Altukhov & Erastova 1971; Anukhina 1958, 1962a, 1962b, 1963a, 1963b, 1964, 1966, 1968a, 1968b; Azarov 1963; Borkin 1978; Deryugin 1916; Dmitriev 1957; Gosheva 1970, 1973; Kazanova & Pertseva-Ostroumova 1960; Khaladinova 1936; Klumov 1937; Knipovich 1926; Kuderskii & Anukhina 1963; Kukushkina & Shcherbina 1977; Kuzmin-Karavaev 1930; Lepekhin 1774; Makhotin 1974; Malmgren 1863; Manteifel 1943, 1945; Nadezhdin 1970; Nikolyaev 1957; Palenichko 1957, 1958, 1968; Palenichko & Timakova 1957; Polyakov 1968; Sakhno 1936; Shatunovskii 1969; Shatunovskii & Denisova 1968; Shatunovskii et al. 1967; Shulman 1954; Soldatov 1923; Sonina 1957; Stasenkov 1978; Stein 1976; Timakova 1957; Valovaya 1977; Val'ter 1979.

KARA SEA

Borisov 1928; Burmakin 1940; Esipov 1941; Isachenko 1912; Kiseleva 1940; Kleinenberg et al. 1969; Knipovich 1928; Kravchuk 1958; Lutken 1886; Mesyatsev 1929; Pokrovskaya 1957; Ponomarenko 1967b; Ponomareva 1949; Probatov 1933, 1936; Shepel 1971; Suvorov 1927; Varpakhovskii 1902.

LAPTEV SEA

Andriyashev 1948; Kleinenberg et al. 1969; Mikhin 1941; Pirozhnikov 1955; Zvyagina 1961.

EAST SIBERIAN SEA

Popov 1933; Rass 1945.

CHUKCHI SEA

Alverson & Wilimovsky 1966; Andriyashev 1937; Barton 1979; Frost 1981; Lowry & Frost 1981; Lowry et al. 1977, 1980; Quast 1974; Rass 1945; Semenenko 1970; Walters 1961; Wilimovsky 1954; Wolotira et al. 1979.

BERING SEA

Agapov 1941; Andriyashev 1935, 1937, 1939; Barton 1979; Bean & Bean 1896; Evermann & Goldsborough 1907; Frost 1981; Frost & Lowry 1981; Grebnitskii 1897; Jordan & Gilbert 1899; Kaganovskii 1933; Kihara 1976; Lowry & Frost 1981; Lowry et al. 1977, 1980; Naumenko 1978; Parchevskii & Sokolova 1978; Rendahl 1931; Semenenko 1970; Sokolova & Parchevskii 1969, 1972; Taranets 1933; Wolotira et al. 1979.

PACIFIC OCEAN (northern)

Cobb 1926; Safronov 1981; Schultz & Welander 1935; Scofield 1899; Shmidt, P. 1948; Shmidt, V. 1936; Wilimovsky 1954, 1964.

SEA OF OKHOTSK

Gracheva 1965; Gribanov et al. 1945; Khudya & Shuntov 1980; Kostarava et al. 1970; Lindberg & Dul'keit 1929; Nikol'skii 1948, 1953b, 1956; Panin 1943; Parchevskii & Sokolova 1978; Petrova-Tychkova 1951; Popov 1931, 1933; Pravdin 1928; Rass & Zheltenkova 1948; Semenenko 1965b, 1970; Shmidt 1904, 1950; Sokolova & Parchevskii 1969, 1972; Taranets 1937b, 1938a; Tsimbaljuk & Semeshko 1971; Vedenskii 1949.

SEA OF JAPAN

Dogel 1948; Dubrovskaya 1953; Dzhumaliev 1980; Honma 1957, 1968; Jordan & Metz 1913; Kaganovskaya 1942; Kolesova 1977; Kozlov 1959; Lindberg 1947; Lyaiman 1930; Markovtsev 1978; Mori & Uchida 1934; Sato 1937; Takeuchi & Imai 1959; Ueno 1970; Vasil'kov et al. 1980.

CANADA (Arctic)

Bain & Sekerak 1978 (Cornwallis Isl.); Bain et al. 1977 (Wellington Channel); Birkhead & Nettleship 1981 (murre feeding) Bear 1975 (Melville Isl.); Bohn & McElroy 1976 (Strathcona Sound); Boulva 1970 (Cambridge Bay); Bradstreet 1977 (seabird feeding Wellington Channel), 1978 (fulmar feeding Lancaster Sound), 1980 (Barrow Strait, seabird feeding), 1982 (Pond Inlet); Bradstreet & Cross 1982 (trophic relationships at ice edges); Buchanan et al. 1977 (Melville Isl.); Den Beste & McCart 1978 (Baffin Isl.); Dunbar 1947 (Baffin Isl.); Dunbar & Hildebrand 1952 (Ungava Bay); Dunbar & Moore 1980 (eastern Arctic); Edwards 1961 (fishes of Richmond Gulf); Ellis 1962 (fish distrib. & ecology); Finley & Gibb 1982 (harp seal feeding); Finley & Johnston 1977 (Somerset Isl.); Gaston & Nettleship 1981 (Prince Leopold Isl.); Green & Steele 1975 (Resolute Bay); Halkett 1913 (check list of fishes); Halkett 1928 (Baffin Isl.); Hildebrand 1948 (marine fish Arctic Canada); Hunter et al. 1980 (Baffin Isl.); Lalli et al. 1973 (Polar Gas Proj.); Lowry et al. 1978 (Beaufort Sea); Lyons & Mielke 1973 (fossil saida Ellesmere Isl.); MacDonald 1954 (Mould Bay); Mansfield 1975 (marine ecology Arctic Canada); Mansfield et al. 1975 (narwhal feeding); McAllister 1966 (bibliogr.), 1975 (ecology marine fishes); McPhail & Lindsey 1970 (freshw.fishes Arctic Canada); Milne & Smiley 1978 (Lancaster Sound); Moore & Moore 1974 (Baffin Isl.); Nettleship & Gaston 1978 (seabird feeding Lancaster Sound & Barrow Str.); Richardson 1855 (Northumberland Sound); Robinson et al. 1981 (bibliogr.); Ross 1826 (habitat, predators, fin ray counts), 1835 (Boothia Penin.); Sabine 1821 (Baffin Bay); Sekerak 1982 (Lancaster Sound); Sekerak et al. 1979 (Baffin Bay); Walters 1951 (Canad.Arct. Exped.), 1953 (Prince Patrick & Ellesmere Isl.), 1955 (fish Arctic America); Turner 1885 (Ungava Bay).

GREENLAND

Hansen 1943; Hildebrand 1939; Jensen 1926, 1948.

ALASKA

Bean 1881; Bean & Bean 1896; Moles 1982.

NORWAY

Aftenposten 1974.

RUSSIA

Aftenposten 1974; Andriyashev 1954, 1957; Andriyashev et al. 1980; Berg 1923, 1933, 1949; Bogaevskii 1960; Borisov & Bogdanov 1955; Borisov & Ovsyannikov 1951, 1954; Butorin 1965; Drjagin 1932; Dubrovskaya 1954; Dul'keit 1925; Gordeev 1949; Kaganovskaya 1949; Kaganovskii 1949; Kizevetter 1942; Klumov 1949; Koelreuter 1770; Konstantinov & Minder 1975; Kravchuk 1958; Lindberg 1927; Milovidova-Dubrovskaya 1933, 1938; Moiseev 1953; Nikol'skii & Radakov 1968; Nikolotova 1954; Okhryamkin 1931; Pochekaev 1949; Ponomarenko 1968a, 1968b; Semenenko 1965; Soldatov 1928, 1938; Soldatov & Lindberg 1930; Suvorov 1948; Taranets 1937a, 1937b; Tsinovsky & Mel'nikov 1980; Walters 1955.

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Ali et al. 1968; Boulva 1972, 1979; Burdak 1968; Devitsyna 1972, 1977; Doroshenko 1981; Dzhumaliev 1976, 1980; Esipov 1931; Halama 1977; Kukushkina & Shcherbina 1977; Lanshin 1928; Lear 1980; Lilly 1980b; Mina 1968; Rass 1941; Svetovidov 1968, 1953; Vladykov 1972.

BEHAVIOUR

Saetersdal 1969; Serebrov 1973, 1974.

DISTRIBUTION

Andriyashev 1935, 1939, 1957; Andriyashev et al. 1980; Backus 1951; Blacker 1968; Ellis 1962; Galbraith & Fraser 1974; Hognestad 1969, 1970; Kendall 1909, 1910; Lear 1979; Shleinik 1970; Shokhnov 1973; Svetovidov 1944, 1948; Walters 1955.

ECOLOGY

Andriyashev 1973; Anukhina 1963, 1964, 1968; Birkhead & Nettleship 1981; Blacker 1968; Boulva 1970; Bradstreet 1977, 1978, 1980, 1182; Bradstreet & Cross 1982; Divoky 1978; Ellis 1962; Finley & Gibb 1982; Frost & Lowry 1981; Gaston & Nettleship 1981; Kleinenberg et al. 1969; Klumov 1936, 1937; Kukushkina & Shcherbina 1977; Lalli et al. 1973; Lowry et al. 1977, 1978, 1980; Mansfield 1975; Mansfield et al. 1975; McAllister 1975; Nettleship & Gaston 1978; Nikol'skii &

Radakov 1968; Pokovskaya 1958, 1960; Ponomarenko 1967c, Ross 1826, Semenenko 1973, Smith 1977, Stasenkov 1978.

FOOD AND FEEDING HABITS

Azarov 1963, Belova 1962, Belova & Tarverdieva 1964, Edwards 1961, Galbraith & Fraser 1974; Kornilova 1971, Kuderskii 1966; Kuderskii & Anukhina 1963; Lilly 1980a; Lowry & Frost 1981; Markovtsev 1978; Nikol'skii & Radakov 1968; Nikolotova 1954, Pirozhnikov 1955; Polyakov 1968. Ponomarenko 1967b; Semenenko 1970; Timakova 1957; Zalesskikh 1978.

MIGRATION

Borkin 1978; Gosheva 1973; Ponomarenko 1968a, 1968b; Smedstad 1974.

PARASITES

Dogel 1948; Froiland 1974, Gusev 1951; Lyaiman 1930; Moles 1982; Schram 1980; Shulman 1954; Stein 1976; Templeman et al 1976, Tsimbaljuk & Semeshko 1971, Valovaya 1977, 1979; Val'ter 1979.

PHYSIOLOGY AND BIOCHEMISTRY

Ahmed et al. 1981 (antifreeze glycoproteins), Berman et al. 1977 (rhodopsins), 1981 (rhodopsins), Bohn & McElroy 1976 (trace metals); Borisova et al. 1974 (DNA); Feeney 1982 (blood serum proteins), Feeney et al. 1979 (blood serum proteins); Feeney & Yeh 1978 (blood serum proteins); Geoghegan et al. 1980 (blood serum proteins); Hargens 1972 (freezing resistance), Hew et al. 1981 (antifreeze glycoproteins); Holeton 1974 (cold adaptation); Isaev et al. 1969 (lipids); Khristoforov 1975 (pituitary, gonads & aging), 1978b (pituitary), 1978c (aging); Kostareva et al. 1970 (radiobiology); Lavrova & Natochin 1977 (ion transport through bladder wall); Markevich & Shatunovskii 1969 (fat metabolism); Odense & Leving 1975 (LDH isozymes); Omel'chenko 1974 (hemoglobins); Osuga & Feeney 1978 (antifreeze glycoproteins); Osuga et al. 1978 (antifreeze glycoproteins), 1980 (antifreeze proteins); Parchevskii & Sokolova 1978 (Sr-90), Ponomarenko 1967a (reaction to light), 1969 (reaction to light); Raymond 1976 (freezing resistance), Raymond & De Vries 1977 (freezing resistance); Raymond et al. 1975 (freezing resistance), 1977 (freezing resistance), Rolanova 1941 (vitamin A); Scholander & Maggert 1971 (blood supercooling), Shatunovskii 1969 (blood serum lipids); Shatunovskii & Denisova 1968 (blood serum lipids), Shatunovskii et al. 1967 (proteins); Shukolyukov et al. 1976 (LDH isozymes); Sokolova & Parchevskii 1969 (Ce-137), 1972 (Pb-210); Tsvetkov 1979 (buoyancy); Van Voorhies et al. 1978 (antifreeze agents); Yamasaki et al. 1980 (protein arginie residues); Zaferman & Serebrov 1972 (light reactions).

REPRODUCTION AND DEVELOPMENT

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TAXONOMY (see also synonymy on p.1)

Drjagin 1932; Fischer 1812; Gill 1891; Gunther 1861; Legendre 1961; Lepekhin 1774; Nichols & Maxwell 1933; Nielsen & Nielsen 1967, Pallas 1811; Richardson 1836; Schultz & Welander 1935; Svetovidov 1948, 1965; Tilesius 1810; Walters 1955.

ADDENDUM

The following references were brought to our attention after the main bibliography had been prepared. They are presented here for the convenience of readers. The notes in parentheses following each reference indicate the index headings under which they should be indexed.

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Printed in Canada by
Supply and Services Canada
Printing Office
for exclusive distribution by
Fisheries and Oceans
Freshwater Institute
Winnipeg, Manitoba
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